

### Amendments to the Claims

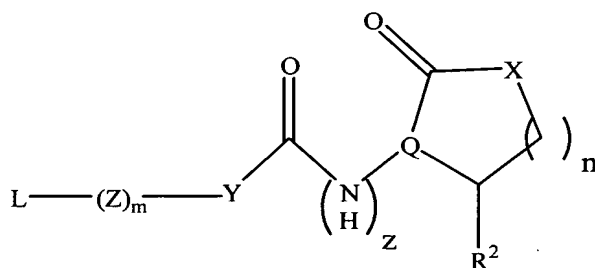
This listing of claims will replace all prior versions, and listings, of claims in the application:

1-15 (canceled)

16. (currently amended) A method for detecting a Gram negative bacteria autoinducer in a sample comprising:

adding to the sample an antibody or fragment thereof ~~in which the antibody specifically~~ which binds specifically to the autoinducer of a Gram negative bacterium according to ~~bacteria of a compound of~~ Formula (I):

(I)



where X is O, S, N-(C<sub>1</sub>—C<sub>6</sub>) alkyl, NR<sup>2</sup>, N-phenyl; Y is C<sub>1</sub>—C<sub>6</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>6</sub> straight or branched alkenyl, C<sub>1</sub>—C<sub>6</sub> straight or branched alkynyl; Z is C=O, C=S, CHOH, C=N-NR<sup>1</sup>, C=N-OH, C<sub>1</sub>—C<sub>8</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>8</sub> straight or branched alkenyl, C<sub>1</sub>—C<sub>8</sub> straight or branched alkynyl; L is C<sub>1</sub>—C<sub>18</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>18</sub> straight or branched alkenyl, C<sub>1</sub>—C<sub>18</sub> straight or branched alkynyl, or —CO<sub>2</sub>H, —CO<sub>2</sub>R<sup>1</sup>, —CHO, —C≡N, —N=C=O, —N=C=S, OH, OR<sup>1</sup>, —CH=CH—CH<sub>2</sub>Br, —CH=CH—CH<sub>2</sub>Cl, —SAc or SH, where R<sup>1</sup> is C<sub>1</sub>—C<sub>6</sub> straight or branched alkyl, m is 0 or 1; z is 0 or 1; R<sup>2</sup> is H, C<sub>1</sub>—C<sub>6</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>6</sub> straight or branched alkenyl or C<sub>1</sub>—C<sub>6</sub> straight or branched alkynyl, or CO<sub>2</sub>H; and Q is CH or N; and n is 0-3 with the proviso that when n is 0, X is N—(C<sub>1</sub>—C<sub>6</sub> alkyl) or N-phenyl; and

detecting whether binding between the antibody, or fragment thereof, and the autoinducer of the Gram negative bacterium occurs, wherein said binding indicates presence of the autoinducer in the sample.

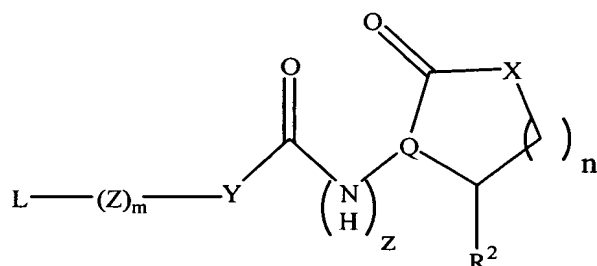
17. (twice amended) The method according to claim 16 wherein the ~~autoinducer is produced by a~~ Gram negative bacterium is selected from the group of bacteria comprising *Aeromonas hydrophila*, *Agrobacterium tumefaciens*, *Burkholderia cepacia*, *Chromobacterium violaceum*, *Enterobacter agglomerans*, *Erwinia stewarti*, *Erwinia carotovora*, *Escherichia coli*, *Nitrosomas europea*, *Photobacterium fischeri*, *Pseudomonas aeruginosa*, *Pseudomonas aureofaciens*, *Rhizobium leguminosarum*, *Serratia liquefaciens*, ~~or~~ and *Vibrio harveyi*.

18-21. (canceled)

22. (withdrawn - currently amended) A method of treating or preventing an infectious disease in a subject comprising:

administering an amount of an antibody or fragment thereof which specifically binds an autoinducer of a Gram negative ~~bacteria of a compound of~~ bacterium according to Formula (I):

(I)



where X is O, S, N-(C<sub>1</sub>—C<sub>6</sub>) alkyl, NR<sup>2</sup>, N-phenyl; Y is C<sub>1</sub>—C<sub>6</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>6</sub> straight or branched alkenyl, C<sub>1</sub>—C<sub>6</sub> straight or branched alkynyl; Z is C=O, C=S, CHOH, C=N-NR<sup>1</sup>, C=N-OH, C<sub>1</sub>—C<sub>8</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>8</sub> straight or branched alkenyl, C<sub>1</sub>—C<sub>8</sub> straight or branched alkynyl; L is C<sub>1</sub>—C<sub>18</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>18</sub> straight or branched alkenyl, C<sub>1</sub>—C<sub>18</sub> straight or branched alkynyl, or —CO<sub>2</sub>H, —CO<sub>2</sub>R<sup>1</sup>, —CHO, —C≡N, —N=C=O, —N=C=S, OH, OR<sup>1</sup>, —CH=CH—CH<sub>2</sub>Br, —CH=CH—CH<sub>2</sub>Cl, —SAc or SH, where R<sup>1</sup> is C<sub>1</sub>—C<sub>6</sub> straight or branched alkyl, m is 0 or 1; z is 0 or 1; R<sup>2</sup> is H, C<sub>1</sub>—C<sub>6</sub> straight or branched alkyl, C<sub>1</sub>—C<sub>6</sub> straight or branched alkenyl or C<sub>1</sub>—C<sub>6</sub> straight or branched alkynyl, or CO<sub>2</sub>H; and Q is CH or N; and n is 0-3 with the

proviso that when n is 0, X is N—(C<sub>1</sub>—C<sub>6</sub> alkyl) or N-phenyl, in which said amount is effective to treat or prevent said infectious disease.

23. (withdrawn) The method according to claim 22 wherein said subject is a human.

24. (withdrawn) The method according to claim 22 wherein said antibody is administered orally, intradermally, intramuscularly, intraperitoneally, intravenously, subcutaneously, or intranasally.

25. (withdrawn) The method of claim 22 in which the infectious disease is caused by a Gram negative bacteria.

26-34. (canceled)